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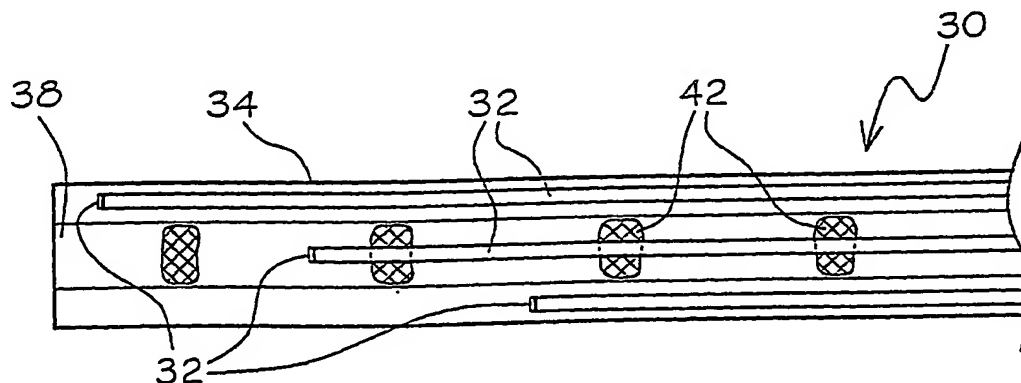
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(54) Title: ULTRASONIC PROBING DEVICE WITH DISTRIBUTED SENSING ELEMENTS



(57) Abstract: A probing device for insertion into a duct to determine local parameters associated with the physical structure the duct at a selected region of the duct, and in particular variations in the physical structure along a predetermined length of interest. The probing device comprises: at least one of a plurality of waveguides incorporated in an elongated assembly designed to be inserted into the duct; at least one of a plurality of transmitters, spaced and distributed along a predetermined length of said at one of a plurality of waveguides incorporated in the elongated assembly, each capable of independently transmitting an acoustic signal of predetermined characteristics; a plurality of waveguides incorporated in the elongated assembly, each capable of receiving echoes of the acoustic signal, reflected off the structure of the duct; whe when each of said at least one of a plurality of transmitters generates an acoustic signal, echoes of the signal received by the plurality of receivers and received data associated with the echoes is processed by a processing unit to determine parameters of the physical structure at the region.



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